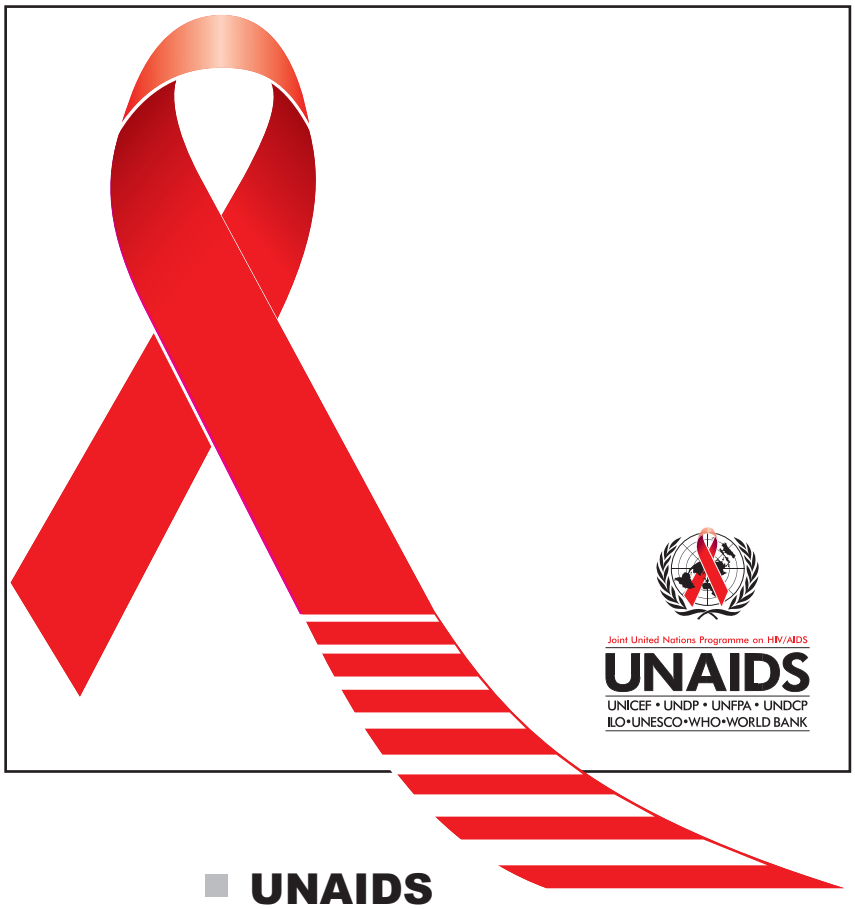
# Paediatric HIV infection and AIDS




## UNAIDS Point of view

**September 2002**

UNAIDS *Best Practice* Collection

# Facts and figures

- More than 1500 children become infected with HIV every day. The vast majority (more than 90%) acquire the infection from their mother.
- Children may acquire HIV during pregnancy, labour, delivery or, after birth, through breastfeeding. Among infected infants who are not breastfed, about two-thirds of cases of mother-to-child transmission occur around the time of delivery and the rest during pregnancy.
- In 2001, more than 2.6 million pregnant women had HIV infection and more than half a million transmitted the virus to their infants.
- Children may also become infected with HIV through contaminated blood transfusion and or blood products, the use of contaminated needles and syringes, and sexual abuse or exploitation.
- Since the beginning of the pandemic, of the over 5 million infants who have been infected with HIV, 90% were born in Africa. However, the number of cases in Central Asia, Eastern Europe, India and South-East Asia is rising.
- HIV infection is a major contributing factor to childhood disease and mortality. In developing countries, it is threatening gains made in infant and child survival and health over recent decades.
- Children with HIV infection suffer from the same common childhood illnesses as those who are not infected. The illnesses are, however, more frequent, last longer and may respond poorly to usual treatments. In advanced HIV infection, opportunistic infections can occur.
- In low-income developing countries, the diagnosis of HIV infection in children below the age of 15 months is largely dependent on the pattern of presentation of signs and symptoms because of poor access to specialized diagnostic tests. In these countries, many HIV-infected children die from common childhood illnesses before their HIV infection is recognized and before severe disease or AIDS develops.
- Prevention of common childhood infections through appropriate immunization, effective management of common childhood illnesses and malnutrition, and prevention and early treatment of opportunistic infections can improve the quality of life of HIV-infected children. Furthermore, HIV counselling and support of children, their parents and siblings can considerably improve quality of life, relieve suffering and assist in the practical management of illness.
- Access to highly active antiretroviral therapy (HAART) in industrialized countries is making HIV infection in children a chronic illness associated with a prolonged lifespan and a better quality of life. While access to HAART in developing countries is improving, many infected children will not receive therapy, even as prices continue to come down.
- The most effective way to reduce the number of children who become infected with HIV is to prevent HIV infection in parents-to-be and to prevent unplanned pregnancies in HIV-infected women. Among pregnant women already infected with HIV, antiretroviral prevention treatment, including treatment for their own illness, if indicated, safe delivery practices and safe infant- feeding options to reduce the risk of mother-to-child transmission of HIV should be provided.

## UNAIDS *Best Practice* materials

The Joint United Nations Programme on HIV/AIDS (UNAIDS) publishes materials on subjects of relevance to HIV infection and AIDS, the causes and consequences of the epidemic, and best practices in AIDS prevention, care and support. A Best Practice Collection on any one subject typically includes a short publication for journalists and community leaders (Point of View); a technical summary of the issues, challenges and solutions (Technical Update); case studies from around the world (Best Practice Case Studies); a set of presentation graphics; and a listing of Key Materials (reports, articles, books, audiovisuals, etc.) on the subject. These documents are updated as necessary.

Technical Updates and Points of View are published in English, French, Russian and Spanish. Single copies of Best Practice materials are available free from UNAIDS Information Centres. To find the closest one, visit the UNAIDS website (http://www.unaids.org), contact UNAIDS by e-mail (unaids@unaids.org) or telephone (+41 22 791 3666), or write to the UNAIDS Information Centre, 20 Avenue Appia, 1211 Geneva 27, Switzerland.

Journalists seeking more information about a UNAIDS Point of View are invited to contact the UNAIDS Geneva Press Information Office (tel: +41 22 791 4577 or +41 22 791 4509; fax +41 22 791 4898; e-mail: wintera@unaids.org).

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# How do children get HIV?

## Mother-to-child transmission (MTCT)

Every day, more than 1500 children become infected with HIV. The vast majority of these children (more than 90%) acquire the infection from their mother. Since the beginning of the pandemic, over 5 million infants have been infected with HIV, 90% of whom were in Africa. However, the number of cases in Central Asia, Eastern Europe, India and South-East Asia is rising. In the year 2001, an estimated 800 000 children became infected.

Children may acquire HIV infection during pregnancy, labour, delivery or after birth during breastfeeding. Fortunately, most children born to HIV-infected mothers are not infected. Estimates of the rates of mother-to-child transmission (MTCT) of HIV have ranged (without the use of antiretroviral (ARV) drugs during pregnancy and in the newborn) from 15–25% in industrialized countries to 25–35% in developing countries.

Among infected infants who are not breastfed, about two-thirds of cases of MTCT occur around the time of delivery and the rest during pregnancy (mostly during the last two months). In societies where breastfeeding is the norm, it accounts for about one-third of all transmissions. As a result, the proportion of infants infected through MTCT is higher in these societies than in those where mothers with HIV infection can safely avoid breastfeeding.

## Other routes of transmission

HIV infection can also be transmitted through blood transfusion and the use of contaminated needles and syringes. In Europe, more than half the children with AIDS live in Romania, where they were infected in the late 80s through contaminated blood products (used during transfusion) and syringes. Strategies such as the screening of all donated blood and avoidance of the inappropriate use of blood and/or its products have been put in place and are succeeding in reducing transmission by this route. WHO guidelines for the prevention of HIV transmission through blood transfusion in both non-emergency and emergency situations must be implemented in all settings.

Child sexual abuse is another significant cause of childhood HIV infection. Discussion of child sexual abuse is taboo in many developing countries. Despite this, information from several studies indicates that sexual abuse may be a problem of similar magnitude to that described in industrialized countries.

# Paediatric HIV/AIDS: a cause for concern for everyone

## A major contributing factor to childhood disease and mortality

In developing countries, many gains were achieved in the 1990s, by WHO/UNICEF's child survival programmes in immunization, oral rehydration therapy, effective case management of acute respiratory infections, promotion of breastfeeding, good weaning practices, family planning and growth monitoring. But the HIV/AIDS pandemic has reversed these gains in many countries.

Children with HIV infection suffer from the same common childhood illnesses as those who are not infected. The illnesses are, however, more frequent, last longer and may respond poorly to usual treatments. Most illnesses are initially caused by common harmful germs. However, as HIV infection progresses, the illnesses may be due to harmless germs that take advantage of the body's inability to fight infection as a result of HIV illness. These may be difficult to diagnose. Unless concrete action is taken now, under-five child mortality rates will more than double in countries such as Botswana, Kenya and Zimbabwe by the year 2010.

As in adults, HIV infection in children is a chronic condition with a wide spectrum of clinical expression, varying from no symptoms to AIDS. The management of specific conditions is similar to that for uninfected children. Without access to highly active anti-retroviral treatment, the disease progresses rapidly, with up to 45% of infected children developing AIDS and dying within the first two years of life. However, some children with HIV infection have an adult pattern of disease, with HIV-related symptoms appearing 10 or more years after initial infection.

In industrialized countries, where infected infants have easy access to ARV therapy, more than 80% are still alive at the age of six. Some children are now surviving into their twenties and are having children of their own. It is a different picture in developing countries where children with HIV infection often die from common childhood diseases even before developing severe immunosuppression. Many HIV-related deaths in developing countries can be prevented by early awareness, early diagnosis and the correct management of common childhood diseases.

# What can we do to prevent HIV infection in children?

## Health education

People need to know that children can become infected with HIV and that, in the majority of cases, HIV infection is acquired from an infected mother. Frequently, but not always, the father is also infected. People also need to know that a small number of children acquire HIV infection as a result of receiving unscreened infected blood or blood products, and that infected medical or surgical equipment and certain traditional medical practices also put children at risk of becoming infected. An unknown but not inconsiderable number of children may become infected with HIV through sexual exploitation or abuse. It is important to know that, with good care and support, infected children can live a longer and better life.

## Prevent mother-to-child transmission (MTCT) of HIV

The best way to prevent MTCT of HIV is by preventing HIV infection in girls and women of childbearing age. Next in line is the prevention of unintended pregnancies in HIV-positive women and all women at risk. This requires strengthening of family-planning services. Women considering pregnancy should be encouraged to determine their HIV status and be told of the implications of pregnancy when infected with HIV.

Once a pregnant woman knows that she is infected, the risk of transmission to her infant can be reduced if she takes antiretroviral prevention medicine during pregnancy and/or around delivery and/or if her baby is also given the medicine. Cost-effective short-course regimens of the drug zidovudine (ZDV) alone, or with another drug called lamivudine (3TC) or nevirapine (NVP), can, when given to the mother and baby, reduce the risk of transmission by half. One of these drugs, NVP, is the easiest to give (one dose to the mother at the beginning of labour and one dose to the baby within 72 hours of delivery) and is available to women in developing countries at no cost, as part of the nevirapine donation programme, or for as little as US$4.

In developing countries, the majority of women attending antenatal care do not know if they have HIV infection and the majority of those who do know their HIV status are HIV-negative. For women of unknown HIV status and for those known to be negative, breastfeeding is the best option for the health of their child and it should be promoted and protected. Breastfeeding should be practised exclusively for the first six months and continued for up to two years.

Ideally, HIV-positive women should avoid breastfeeding altogether. But where this is not acceptable, affordable, feasible, safe and/or sustainable, Women with HIV infection should exclusively breastfeed for up to six months. HIV-positive mothers who choose not to breastfeed should be informed of the loss of the contraceptive benefit of breastfeeding and the need to use a family-planning method in order to avoid any unplanned pregnancies.

Contact with the mother's blood and/or secretions during labour and delivery increases the risk of HIV transmission to the infant. The use of surgical procedures that expose the infant to the mother's blood and/or secretions should therefore be limited to cases of absolute necessity. Elective (non-emergency) caesarian sections in HIV-positive women have been shown to be effective in reducing the risk of MTCT. The risk of complications, and the cost involved, limit the applicability of this intervention in many low-income developing countries.

As long as they feel that they are at risk of sexually transmitted infections, including HIV, all women, regardless of their HIV status, should be advised to use condoms at all times during sex even when pregnant or lactating, unless they are intending to get pregnant.

Global access to the means of prevention of MTCT was a key concern at the United Nations General Assembly Special Session on HIV/AIDS (UNGASS), which took place in New York, in June 2001. At this historic meeting, representatives from 189 countries, including many heads of States, committed their governments to reducing the number of infants infected with HIV by 20% by 2005 and by 50% by 2010. Countries can do this by ensuring that at least 80% of pregnant women in their countries have access to antenatal care, information, counselling and other HIV-prevention services. In addition, access to treatment, especially ARV therapy and, where appropriate, breast-milk substitutes and the provision of a continuum of care will help countries meet the UNGASS goals.

# What can we do to reduce the impact of HIV on children?

## Early awareness

Early awareness that a child has HIV infection, combined with good care and support, can enhance survival and quality of life.

All children born to mothers known or suspected to be HIV-positive should receive regular follow-up with close monitoring of symptoms that may suggest HIV infection. Like other children, they should have a well-balanced diet and should receive appropriate immunization. Later, when those suspected of having HIV are confirmed as positive, appropriate treatment to prevent opportunistic infections should be given and ARV therapy should be started if accessible and affordable and if/when indicated.

It is important to explain to the family that a HIV-infected child will not necessarily die early, but that, with good care and early treatment of illness and opportunistic infections, the child can survive for a long time. Counselling and support of HIV-infected children, their parents and their siblings can considerably improve their quality of life, relieve suffering and assist in the practical management of illness.

## Diagnostic facilities

The presence of maternal antibodies limits the use of HIV antibody testing for diagnosis of HIV infection in infants under the age of 15–18 months. There is no test, as yet, that can distinguish between the mother's and the baby's antibodies. After 15 months of age, children found to have HIV antibodies are HIV-infected. For this type of diagnosis, a laboratory that can conduct simple HIV testing is sufficient. For an earlier diagnosis of paediatric HIV infection, specialized and more costly laboratory equipment and expertise are needed.

Effective management of opportunistic infection is often limited by the lack of diagnostic facilities. Sensitive and affordable laboratory tests, as well as specific guidelines and clinical definitions for the diagnosis of opportunistic infections, should be developed.

## Immunization

All children born to suspected or known HIV-positive mothers should be fully immunized according to the national expanded programme of immunization childhood vaccination guidelines.

Children with suspected or confirmed HIV infection, but who do not have symptoms suggestive of HIV, should be vaccinated like all other children. Infected children with symptoms suggestive of HIV illness should receive all the childhood vaccines, including measles and hepatitis B, but not BCG (for tuberculosis) or yellow fever. Infected children, with or without symptoms, should have an extra dose of measles vaccine at six months of age, in addition to the one at nine months of age. Instead of oral polio vaccine (OPV), the injectable form can be used as an alternative for children with symptomatic HIV infection. In industrialized countries, pneumococcal vaccine is also given to infected children over two years of age and repeated after three-to-five years.

If children with HIV infection are not immunized, they may get severe forms of preventable diseases. Thus, it is very important that they receive the full course of immunizations.

Children with symptoms suggestive of HIV may have a poorer response to immunization than children without symptoms. Early immunization is important because children with HIV infection are at higher risk of developing severe forms of preventable diseases.

## Nutrition

Children with HIV infection who are well nourished have fewer infections and progress more slowly from HIV to AIDS. Nutritional support is therefore important in the management of HIV-infected children. Failure to thrive may be one of the first signs of HIV in children. Studies have shown that vitamin A is important in reducing morbidity and mortality from infections in HIV-positive children. In developing country settings, the implementation of national vitamin A programmes is cost-effective and efforts should be made to include all children, particularly children with HIV infection, in these programmes.

## Drugs

Basic drugs for treating common childhood infections and infections associated with HIV, such as pneumonia, sepsis and fungal infections, as well as drugs for supportive and palliative care, are essential. Children with terminal AIDS should have access to adequate pain relief and drugs for the symptomatic relief of diarrhoea and respiratory symptoms.

# What can we do to reduce the impact of HIV on children?

Highly active antiretroviral therapy (HAART) has been shown in developed countries to improve the survival and quality of life in children with HIV. While access to HAART in the developing world is improving, costs of antiretroviral drugs and the need for monitoring continue to limit their use in these countries although WHO guidelines now propose clinical monitoring in situations where adequate laboratory support is lacking. Due to the difficulties in diagnosing HIV infection in children and related opportunistic infections, access to HAART is expected to continue to elude many children living with HIV in developing countries, even as the prices of ARV drugs come down.

## Multidisciplinary approach

Children living in families affected by HIV suffer socioeconomic and psychological problems, in addition to the medical problems they face. Many will become orphans.

A medical approach alone is not enough to guarantee effective support to these children and their families. Flexible multidisciplinary models of care involving the community, social workers, counsellors, nurses, doctors and teachers are needed to respond to the diversity of needs of children living with HIV/AIDS and their families.

## Children's rights

About 2.7 million children are currently living with HIV infection. In line with the UN Convention on the Rights of the Child, all children living with HIV infection must have access to treatment, counselling, education, recreation and social support, and be protected against any form of discrimination.

Children should not simply be the passive objects of clinical and social interventions. As they grow older, they should progressively be given the opportunity to play an active role in their own care. A special effort is needed to facilitate children's participation in all matters that affect them, including HIV, and to put their human rights into practice.

## Integration of paediatric issues on the HIV agenda

The needs and problems of infected and affected children should be integrated into HIV-related activities in all sectors—in particular, health, education, agriculture, social services and finance.

The vast majority of children with HIV acquire the infection from their mother, either during pregnancy, labour, delivery or, after birth, during breastfeeding. Since the beginning of the pandemic, more than 5 million infants have been infected with HIV, 90% of whom live in Africa. However, the number of cases in Central Asia, Eastern Europe, India and South-East Asia is rising.

This Best Practice document examines how children become infected with HIV; what can be done to prevent infection in children, which includes health education and the prevention of mother-to-child transmission; and, finally, the various ways of reducing the impact of HIV on children (such as promoting early awareness, improving diagnostic facilities, providing vitamin A supplementation and immunization).

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